

REMARKS

The Office Action mailed March 30, 2006 has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Claims 1-20 are now pending in this application. Claims 6-16 stand rejected. Claims 1-5 have been withdrawn.

The rejection of Claims 19 and 20 under 35 U.S.C. § 112 is respectfully traversed. Claim 19 is amended to clarify the language of the claim. Claim 20 depends from claim 19. For at least the reasons set forth above, Applicants respectfully request that the Section 112 rejection of Claims 19 and 20 be withdrawn.

The rejection of Claims 6-9, 11, 12, and 14 under 35 U.S.C. § 102(b) as being anticipated by Wikle (U.S. Patent 5,645,466) ("Wikle") is respectfully traversed.

Wikle describes grinding machine (20) including an X-Y slide table (42) and a rotary table unit (62) that is supported by the X-Y slide table (42). The rotary table unit (62) includes a circular table (64) that supports a workpiece holder (70) positioned thereon. The workpiece holder (70) includes opposing blocks (72) and (74) that include round pins (not shown) which mate with grooves defined within a root portion (31) of a blade (25) when a toggle clamp (77) is moved to its over-center locked position. As a result, the blade (25) is clamped in a slot defined between the opposing blocks (72) and (74). Notably, Wikle does not teach nor suggest a slotted opening defined in an upper surface of the table (64), wherein the opening is configured to receive an airfoil. Rather, in Wikle a slot is defined between opposing blocks (72) and (74) that are provided above an upper surface of the table (64) to receive the blade root portion (31).

Claim 6 recites an apparatus for aligning a gas turbine engine blade including an airfoil and a dovetail in which the apparatus includes "at least one locator pin configured to engage a serration formed on the blade dovetail . . . a locator block supporting said locator pin . . . a slide block assembly for engaging a dovetail surface opposite the serration . . . a base member comprising a platform comprising an end plate, a bottom surface, and an

opposite upper surface for supporting said slide block assembly and said locator block . . . said slide block assembly is slidably coupled to said platform upper surface . . . said platform upper surface defining a slotted opening extending through said bottom surface . . . said opening configured to receive the blade airfoil.”

Wikle does not describe nor suggest an apparatus for aligning a gas turbine engine blade as is recited in Claim 6. Specifically, Wikle does not describe nor suggest an apparatus including a slide block assembly that is configured to position a blade dovetail against a locator pin, wherein the slide block assembly is slidably coupled to a platform, the platform upper surface defines a slotted opening extending through the bottom surface wherein the opening is configured to receive the blade airfoil. Rather, in contrast to the present invention, Wikle describes a grinding machine (20) including a slot defined between the opposing blocks (72) and (74) that are provided above an upper surface of the table (64) to receive the blade root portion (31). Accordingly, for at least the reasons set forth above, Claim 6 is submitted to be patentable over Wikle.

Claims 7-9, 11, 12, and 14, directly or indirectly, depend from independent Claim 6. When the recitations of Claims 7-9, 11, 12, and 14 are considered in combination with the recitations of Claim 6, Applicants submit that dependent Claims 7-9, 11, 12, and 14 likewise are patentable over Wikle.

For at least the reasons set forth above, Applicants respectfully request that the Section 102 rejection of Claims 6-9, 11, 12, and 14 be withdrawn.

The rejection of Claims 10 and 15-20 under 35 U.S.C. § 103(a) as being unpatentable over Wikle in view of DeMuis (U.S. Patent 4,128,929) (“DeMuis”) is respectfully traversed.

Wikle is described above.

DeMuis describes a grinding fixture (60) including a base (66), a support block (70) supported on the base (66), and a vise (72) supported on support block (70). The vise (720) includes a fixed jaw (74) and a movable jaw (76) that is moved via an advancement screw

(77). A slot is defined between the fixed jaw (74) and the movable jaw (76). The slot is sized to receive a base portion (15) of a blade (10) such that the base portion (15) may be clamped in the slot above a block (78). Notably, DeMuis does not teach nor suggest a slotted opening defined in an upper surface of the block (78) and wherein the opening receives an airfoil. Rather a slot is defined between the opposing jaws (74) and (76). Jaws (74) and (76) are provided above an upper surface of the block (78) to receive the blade root portion (15).

Applicants respectfully submit that the Section 103 rejection of the presently pending claims is not a proper rejection. As is well established, obviousness cannot be established by combining the teachings of the cited art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combination. Neither Wikle nor DeMuis, considered alone or in combination, describe or suggest the claimed combination. Furthermore, in contrast to the assertion within the Office Action, Applicants respectfully submit that it would not be obvious to one skilled in the art to combine Wikle and DeMuis, because there is no motivation to combine the references suggested in the art. Additionally, the Examiner has not pointed to any prior art that teaches or suggests to combine the disclosures, other than Applicants' own teaching. Rather, only the conclusory statement that "it would have been obvious to one of ordinary skill in the art at the time of invention to have employed the teachings of DeMuis in the apparatus of Wikle, wherein multiple locator pins having clamping lengths substantially equal to the length of the blade dovetail would be provided in the locator block, to provide an effective and rigid clamping of the blade resulting in a precise and accurate finished surface" suggests combining the disclosures.

As the Federal Circuit has recognized, obviousness is not established merely by combining references having different individual elements of pending claims. Ex parte Levengood, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Inter. 1993). MPEP 2143.01. Rather, there must be some suggestion, outside of Applicants' disclosure, in the prior art to combine such references, and a reasonable expectation of success must be both found in the prior art, and not based on Applicant's disclosure. In re Vaeck, 20 U.S.P.Q.2d 1436 (Fed. Cir. 1991).

In the present case, neither a suggestion nor motivation to combine the prior art disclosures, nor any reasonable expectation of success has been shown.

Furthermore, it is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the cited art so that the claimed invention is rendered obvious. Specifically, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the art to deprecate the claimed invention. Further, it is impermissible to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art. The present Section 103 rejection is based on a combination of teachings selected in an attempt to arrive at the claimed invention. Since there is no teaching nor suggestion in the cited art for the combination, the Section 103 rejection appears to be based on a hindsight reconstruction in which isolated disclosures have been picked and chosen in an attempt to deprecate the present invention. Of course, such a combination is impermissible, and for this reason alone, Applicants request that the Section 103 rejection be withdrawn.

Moreover, and to the extent understood, neither Wikle nor DeMuis, considered alone or in combination, describe or suggest the claimed invention. Specifically, Claim 6 recites an apparatus for aligning a gas turbine engine blade including an airfoil and a dovetail in which the apparatus includes "at least one locator pin configured to engage a serration formed on the blade dovetail . . . a locator block supporting said locator pin . . . a slide block assembly for engaging a dovetail surface opposite the serration . . . a base member comprising a platform comprising an end plate, a bottom surface, and an opposite upper surface for supporting said slide block assembly and said locator block . . . said slide block assembly is slidably coupled to said platform upper surface . . . said platform upper surface defining a slotted opening extending through said bottom surface . . . said opening configured to receive the blade airfoil."

Neither Wikle nor DeMuis, considered alone or in combination, describe or suggest an apparatus for aligning a gas turbine engine blade as is recited in Claim 6. Specifically, neither Wikle nor DeMuis, considered alone or in combination, describe or suggest an

apparatus including a slide block assembly configured to position a blade dovetail against a locator pin, wherein the slide block assembly is slidably coupled to a platform, the platform upper surface defines a slotted opening extending through the bottom surface, and the opening is configured to receive the blade airfoil. Rather, in contrast to the present invention, Wikle describes a grinding machine (20) including a slot defined between the opposing blocks (72) and (74) that are provided **above an upper surface** of the table (64) to receive the blade root portion (31), and DeMuis describes a grinding fixture (6) including a slot is defined between the opposing jaws (74) and (76) that are provided **above an upper surface** of the block (78) to receive the blade root portion (15). Accordingly, for at least the reasons set forth above, Claim 6 is submitted to be patentable over Wikle in view of DeMuis.

Claims 10, 15, and 16, directly or indirectly, depend from independent Claim 6. When the recitations of Claims 10, 15, and 16 are considered in combination with the recitations of Claim 6, Applicants submit that dependent Claims 10, 15, and 16 likewise are patentable over Wikle in view of DeMuis.

Claim 17 recites a tool for securing a turbine blade including an airfoil and a dovetail in which the tool includes “a pair of locator pins configured to engage adjacent serrations defined in the turbine blade . . . a locator block supporting said locator pins . . . a slide block assembly configured to engage the blade dovetail opposite said locator pins such that the blade dovetail is secured in said tool by said locator pins . . . a base member comprising a platform comprising an end plate, a bottom surface, and an opposite upper surface for supporting said slide block assembly and said locator block . . . said slide block assembly is slidably coupled to said platform upper surface . . . said platform upper surface defining a slotted opening extending through said bottom surface . . . said slotted opening configured to receive the blade airfoil.”

Neither Wikle nor DeMuis, considered alone or in combination, describe or suggest an apparatus for aligning a gas turbine engine blade as is recited in Claim 17. Specifically, neither Wikle nor DeMuis, considered alone or in combination, describe or suggest an apparatus including a slide block assembly configured to position a blade dovetail against a locator pin, wherein the slide block assembly is slidably coupled to a platform, the platform

upper surface defines a slotted opening extending through the bottom surface, and the opening is configured to receive the blade airfoil. Rather, in contrast to the present invention, Wikle describes a grinding machine (20) including a slot defined between the opposing blocks (72) and (74) that are provided **above an upper surface** of the table (64) to receive the blade root portion (31), and DeMuis describes a grinding fixture (6) including a slot is defined between the opposing jaws (74) and (76) that are provided **above an upper surface** of the block (78) to receive the blade root portion (15). Accordingly, for at least the reasons set forth above, Claim 17 is submitted to be patentable over Wikle in view of DeMuis.

Claims 18-20, directly or indirectly, depend from independent Claim 17. When the recitations of Claims 18-20 are considered in combination with the recitations of Claim 17, Applicants submit that dependent Claims 18-20 likewise are patentable over Wikle in view of DeMuis.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claims 10 and 15-20 be withdrawn.

The rejection of Claim 13 under 35 U.S.C. § 103(a) as being unpatentable over Wikle in view of Broffitt (U.S. Patent 2,907,233) ("Broffitt") is respectfully traversed.

Wikle is described above.

Broffitt describes a checking and drilling machine including a blade holder (56) for supporting a turbine blade (54) at a blade root (58). The blade holder (56) includes an air cylinder (84) that actuates shafts (86) and (88) such that the blade root (58) may be clamped between shaft (86) and blade positioning point (80). The blade holder (56) also includes an initial blade positioning mechanism (94) for supporting and clamping the blade root (58). Notably, Broffitt does not teach nor suggest a slotted opening defined in an upper surface of the blade holder (56) and configured to receive an airfoil. Rather a slot is defined above an upper surface of the blade holder (56) and between the blade positioning point (80), the shaft (86), and the initial blade positioning mechanism (94) to receive the blade root (58).

Applicants respectfully submit that the Section 103 rejection of the presently pending claims is not a proper rejection. As is well established, obviousness cannot be established by combining the teachings of the cited art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combination. Neither Wikle nor Broffitt, considered alone or in combination, describe or suggest the claimed combination. Furthermore, in contrast to the assertion within the Office Action, Applicants respectfully submit that it would not be obvious to one skilled in the art to combine Wikle and Broffitt, because there is no motivation to combine the references suggested in the art. Additionally, the Examiner has not pointed to any prior art that teaches or suggests to combine the disclosures, other than Applicants' own teaching. Rather, only the conclusory statement that "it would have been obvious to one of ordinary skill in the art at the time of invention to have used an automated drive including a pneumatic cylinder for positioning of the slide block, since it has been held that broadly providing a mechanical or automated means to replace manual activity which has accomplished the same result involves only routine skill in the art" suggests combining the disclosures.

As the Federal Circuit has recognized, obviousness is not established merely by combining references having different individual elements of pending claims. *Ex parte Levengood*, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Inter. 1993). MPEP 2143.01. Rather, there must be some suggestion, outside of Applicants' disclosure, in the prior art to combine such references, and a reasonable expectation of success must be both found in the prior art, and not based on Applicant's disclosure. *In re Vaeck*, 20 U.S.P.Q.2d 1436 (Fed. Cir. 1991). In the present case, neither a suggestion nor motivation to combine the prior art disclosures, nor any reasonable expectation of success has been shown.

Furthermore, it is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the cited art so that the claimed invention is rendered obvious. Specifically, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the art to deprecate the claimed invention. Further, it is impermissible to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such

reference fairly suggests to one of ordinary skill in the art. The present Section 103 rejection is based on a combination of teachings selected in an attempt to arrive at the claimed invention. Since there is no teaching or suggestion in the cited art for the combination, the Section 103 rejection appears to be based on a hindsight reconstruction in which isolated disclosures have been picked and chosen in an attempt to deprecate the present invention. Of course, such a combination is impermissible, and for this reason alone, Applicants request that the Section 103 rejection be withdrawn.

Moreover, and to the extent understood, neither Wikle nor Broffitt, considered alone or in combination, describe or suggest the claimed invention. Specifically, Claim 6 recites an apparatus for aligning a gas turbine engine blade including an airfoil and a dovetail in which the apparatus includes “at least one locator pin configured to engage a serration formed on the blade dovetail . . . a locator block supporting said locator pin . . . a slide block assembly for engaging a dovetail surface opposite the serration . . . a base member comprising a platform comprising an end plate, a bottom surface, and an opposite upper surface for supporting said slide block assembly and said locator block . . . said slide block assembly is slidably coupled to said platform upper surface . . . said platform upper surface defining a slotted opening extending through said bottom surface . . . said opening configured to receive the blade airfoil.”

Neither Wikle nor Broffitt, considered alone or in combination, describe or suggest an apparatus including a slide block assembly configured to position a blade dovetail against a locator pin, wherein the slide block assembly is slidably coupled to a platform, the platform upper surface defines a slotted opening extending through the bottom surface, and the opening is configured to receive the blade airfoil. Rather, in contrast to the present invention, Wikle describes a grinding machine (20) including a slot defined between the opposing blocks (72) and (74) that are provided **above an upper surface** of the table (64) to receive the blade root portion (31), and Broffitt describes a checking and drilling machine including a slot is defined **above an upper surface** of the blade holder (56) and between the blade positioning point (80), the shaft (86), and the initial blade positioning mechanism (94) to

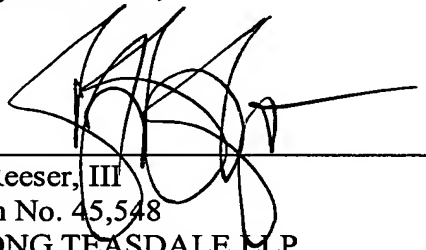
receive the blade root (58). Accordingly, for at least the reasons set forth above, Claim 6 is submitted to be patentable over Wikle in view of Broffitt.

Claim 13 depends indirectly from independent Claim 6. When the recitations of Claim 13 are considered in combination with the recitations of Claim 6, Applicants submit that dependent Claim 13 likewise is patentable over Wikle in view of Broffitt.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claim 13 be withdrawn.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,

A handwritten signature in black ink, appearing to be 'Robert B. Reeser, III', written over a horizontal line.

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